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SUBJECT Appeal Brief (10/015,223)

Number of Pages 45

Date 10/26/2005

MESSAGE

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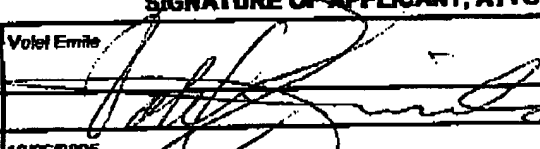3. three copies of the Appeal Brief.

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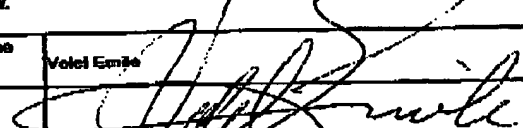
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TRANSMITTAL FORM *(to be used for all correspondence after initial filing)*	

Application Number	10/015,223
Filing Date	12/17/2001
First Named Inventor	McBreerty et al.
Art Unit	2188
Examiner Name	Pierre M. Vital
Attorney Docket Number	AUS920010862US1

Total Number of Pages in This Submission

ENCLOSURES   (Check all that apply)

☑ Fee Transmittal Form
   ☑ Fee Attached
☐ Amendment/Reply
   ☐ After Final
   ☐ Affidavits/declaration(s)
☐ Extension of Time Request
☐ Express Abandonment Request
☐ Information Disclosure Statement
☐ Certified Copy of Priority Document(s)
☐ Response to Missing Parts/ Incomplete Application
   ☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Drawing(s)
☐ Licensing-related Papers
☐ Petition
☐ Petition to Convert to a Provisional Application
☐ Power of Attorney, Revocation Change of Correspondence Address
☐ Terminal Disclaimer
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Remarks
Appeal Brief.

☐ After Allowance communication to Technology Center (TC)
☐ Appeal Communication to Board of Appeals and Interferences
☑ Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
☐ Proprietary Information
☐ Status Letter
☐ Other Enclosure(s) (please identify below):

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Volei Emile
Signature	
Date	10/26/2005

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Typed or printed name	Volei Emile		
Signature		Date	10/26/2005

Appl. No. 10/015,223
Appeal Brief dated 10/26/2005
Reply to Office Action of 06/07/2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of: 　Gerald Francis McBrearty	: : : Before the Examiner: 　Pierre M. Vital
Serial No: 10/015,223	: :
Filed: 12/17/2001	: : Group Art Unit: 2188
Title: APPARATUS AND METHOD OF CREATING A MIRRORING MAP FOR USE WITH DIFFERENT PIECES OF DATA	: Confirmation No.: 6252 : : :

TRANSMITTAL OF APPELLANTS' BRIEF UNDER 37 C.F.R. 1.192(a)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attached is Appellant's Brief, in triplicate, from a decision of the Examiner dated **06/07/2005**, finally rejecting the claims in the Application.

The item(s) marked below are appropriate:

1. _____ A petition and fee for extension of term for reply to the final rejection is attached.

2. __X__ Appeal fee

　　__X__ other than a small entity.　Fee: $500.00

3. __X__ Payment

　　__X__ Please charge Deposit Account **09-0447** the sum of $500.00. A duplicate of this notice is attached.
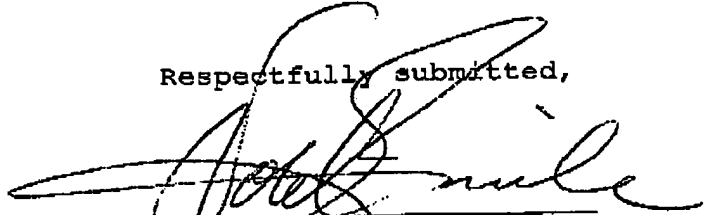
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Reply to Office Action of 06/07/2005

     The Commissioner is hereby authorized to charge any additional fee, which may be required or credit any overpayment to Deposit Account No. **09-0447**.

Respectfully submitted,

Volel Emile
Attorney for Applicants
Registration No. 39,969
(512) 306-7969

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Appl. No. 10/015,223
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Reply to Office Action of 06/07/2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of: :
    Gerald Francis McBrearty   :
                   : Before the Examiner:
Serial No: 10/015,223   :   Pierre M. Vital
                   :
Filed: 12/17/2001   : Group Art Unit: 2188
                   :
Title: APPARATUS AND METHOD : Confirmation No.: 6252
OF CREATING A MIRRORING MAP :
FOR USE WITH DIFFERENT PIECES :
OF DATA   :

APPELLANTS' BRIEF UNDER 37 C.F.R. 1.192

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

     This is an appeal to a final rejection dated June 07, 2005 of claims 1 - 20 of Application Serial Number 10/015,223 filed on December 17, 2001. This Appeal Brief is submitted pursuant to a Notice of Appeal filed on August 29, 2005 in accordance with 37 C.F.R. 1.192.

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Appl. No. 10/015,223
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BRIEF FOR APPLICANTS - APPELLANTS

(1)

Real Party in Interest

The real party in interest is International Business Machines Corporation (IBM), the assignee.

(2)

Related Appeals and Interferences

There are no other appeals or interferences known to appellants, appellants' representative or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3)

Status of Claims

Claims 1 - 20 have been finally rejected in an Office Action dated June 07, 2005.

(4)

Status of Amendment

All amendments have been entered.

(5)

Summary of the Invention

The present invention allows existing mirroring maps to be used whenever applicable rather than requiring that a new mirroring map be defined for each piece of data being mirrored. In accordance with the teachings of the invention, when a mirroring map is created, it is given a

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name (see page 14, lines 29 and 30). The name is used to associate different pieces of data with the mirroring map (see page 14, line 30 to page 15, line 3). That is, different pieces of data may use an existing map when they are associated with the name of the mirroring map.

(6)

Issues

Whether Claims 1 - 20 were properly rejected under 35 U.S.C. §103(a) as being unpatentable over Taylor et al. in view of Balsan et al.

(7)

Grouping of Claims

The rejected claims stand or fall together.

(8)

Argument

In considering a Section §103 rejection, the subject matter of the claim "as a whole" must be considered and analyzed. In the analysis, it is necessary that the scope and contents of the prior art and differences between the art and the claimed invention be determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

According to Taylor et al., during a data migration operation (i.e., when data is moved from a first storage device to a second storage device), it is often necessary to block access to the data. After the migration has completed, re-configuration at a user system must be executed to make the data available to the user from the

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second storage device.   The blocking of access to the data
during the data migration is a particularly costly action
for large data sets having many users.   Both the amount of
time required to move a copy of the data to the second
storage device, and the number of people inconvenienced can
be very large.   As a solution, Taylor et al. sought to
provide a method of transferring data from a first storage
device to a second storage device without blocking access
to the data.

     In accordance with the purported teachings of Taylor
et al. an intermediate device is used.   The intermediate
device comprises three communication interfaces.   A first
interface is used to communicate with the first storage
device (e.g., the storage device in which the data is
originally stored).   A second interface is used to
communicate with the second storage device (e.g., the
storage device in which the data is to be transferred), and
a third interface is used to communicate with client
systems.

     When a client system requests access to a certain
piece of data, the request is routed to the intermediate
device.   The intermediate first determines whether the
request is a "read" or a "write".   If the request is a
"write" (as when a data is being modified) the data that is
to be written will be sent to both the first and second
storage devices if the data to be modified has already been
transferred to the second storage device.   If on the other
hand, the request is a "read", the read request may be sent
to either the first or the second storage device if the

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device has already been transferred to the second storage device.

However, Taylor et al. do not teach, show or so much as suggest the steps of *naming a mirroring map and of allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data* as claimed.

Belsan et al. purport to teach a data file storage management system for snapshot copy operations. According to Belsan et al., a file storage management system for snapshot copy operations is used. The file storage management system is implemented in a dynamically mapped virtual data storage subsystem to maintain data file copy integrity in snapshot copy operations. The data storage subsystem is connected to at least one processor and functions to store data files for the processor in the backend data storage devices that are part of the data storage subsystem. The processor assigns a virtual track address to a data file which is transmitted to the data storage subsystem for storage in an allocated physical storage location in the backend data storage devices. The assignment of a physical storage location on the backend data storage devices is effected by a controller contained within the data storage subsystem, which defines the correspondence between the processor assigned virtual track address and the logical address of the stored data file. A mapping table translates the virtual track address into a logical address which identifies the location of the data file on a physical disk drive. The location of the data file changes as the data storage subsystem free space

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collection process moves the data file to create free space into which new data can be written. It is therefore insufficient to store the translation from a virtual address to a logical address as a means of preserving a record of the mapping table updates, since the free space collection process changes the physical location of the data file but does not update these translations.

Consequently, Belsan et al. purport to provide the data files stored on the disk drives with information that is independent of the logical address at which the data file presently being copied is stored. This enables the disk stored information to remain valid even though the physical location of the data file may change over time. This is accomplished by the use of a two level mapping architecture. The first level of mapping tables maps a virtual address to an immutable name which identifies a unit of data, such as a virtual track. The second level of mapping tables maps the immutable name to a given logical address. The snapshot copy operation operates on the first level of the mapping table to create multiple copies of the virtual track, thereby eliminating the need to associate with each virtual track address a mapping table entry which contains a logical address.

But note that it is a logical address that is given a name and not a logical volume as in the present case.

In any case, just like in the case of Taylor et al., Belsan et al. do not teach, show or so much as suggest the steps of *naming a mirroring map and of allowing different pieces of data to be used with the mirroring map when the*

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Reply to Office Action of 06/07/2005

name of the mirroring map is associated with the different
pieces of data as claimed.

Since the references, either alone or in combination,
teach, show or suggest the claimed invention, Applicants
submit that the claims in the Application are allowable.
Hence, Applicants respectfully request allowance and
passage to issue of the claims in the application.

Respectfully submitted,

By: _____
Volel Emile
Attorney for Applicants
Registration No. 39,969
(512) 306-7969

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Appl. No. 10/015,223
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APPENDIX

1.   (Previously presented) A method of defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems to use to store one or more copies of a piece of data, the method comprising the steps of:

creating the mirroring map;

naming the mirroring map; and

allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data.

2.   (Previously presented) The method of Claim 1 wherein the step of allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data includes the step of associating a volume group in which the different pieces of data are to be stored with the mirroring map.

3.   (Original) The method of Claim 2 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

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4.   (Original) The method of Claim 3 wherein a mirroring
      map may be created for facilitating striping a piece
      of data.

5.   (Original) The method of Claim 4 wherein a partition
      may be specified when storing data in a mirroring map.

6.   (Previously presented) A computer program product on a
      computer readable medium for defining a mirroring map
      for use with different pieces of data, the mirroring
      map being an identification of one or more physical
      storage systems and one or more physical partitions in
      the one or more physical storage systems to use to
      store one or more copies of a piece of data, the
      computer program product comprising:

      code means for creating the mirroring map;

      code means for naming the mirroring map; and

      code means for allowing different pieces of data to be
      used with the mirroring map when the name of the
      mirroring map is associated with the different pieces
      of data.

7.   (Previously presented) The computer program product of
      Claim 6 wherein the code means for allowing different
      pieces of data to be used with the mirroring map when
      the name of the mirroring map is associated with the
      different pieces of data includes code means for

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associating a volume group in which the different pieces of data are to be stored with the mirroring map.

8. (Original) The computer program product of Claim 7 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

9. (Original) The computer program product of Claim 8 wherein a mirroring map may be created for facilitating striping a piece of data.

10. (Original) The computer program product of Claim 9 wherein a partition may be specified when storing data in a mirroring map.

11. (Previously presented) An apparatus for defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems to use to store one or more copies of a piece of data, the apparatus comprising:

means for creating the mirroring map;

means for naming the mirroring map; and

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means for allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data.

12. (Previously presented) The apparatus of Claim 11 wherein the means for allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data includes means for associating a volume group in which the different pieces of data are to be stored with the mirroring map.

13. (Original) The apparatus of Claim 12 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

14. (Original) The apparatus of Claim 13 wherein a mirroring map may be created for facilitating striping a piece of data.

15. (Original) The apparatus of Claim 14 wherein a partition may be specified when storing data in a mirroring map.

16. (Previously presented) A computer system for defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems

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to use to store one or more copies of a piece of data, the computer system comprising:

at least a memory device for storing code data; and

at least a processor for processing said code data for creating the mirroring map, naming the mirroring map, and allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data.

17. (Previously presented) The computer system of Claim 16 wherein processing the code data to allow different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data includes processing the code data to associate a volume group in which the different pieces of data are to be stored with the mirroring map.

18. (Original) The computer system of Claim 17 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

19. (Original) The computer system of Claim 18 wherein a mirroring map may be created for facilitating striping a piece of data.

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20.   (Original) The computer system of Claim 19 wherein a
      partition may be specified when storing data in a
      mirroring map.

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Reply to Office Action of 06/07/2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of: :	
Gerald Francis McBrearty :	
:	Before the Examiner:
Serial No: 10/015,223 :	Pierre M. Vital
:	
Filed: 12/17/2001 :	Group Art Unit: 2188
:	
Title: APPARATUS AND METHOD :	Confirmation No.: 6252
OF CREATING A MIRRORING MAP :	
FOR USE WITH DIFFERENT PIECES :	
OF DATA :	

APPELLANTS' BRIEF UNDER 37 C.F.R. 1.192

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal to a final rejection dated June 07, 2005 of claims 1 - 20 of Application Serial Number 10/015,223 filed on December 17, 2001. This Appeal Brief is submitted pursuant to a Notice of Appeal filed on August 29, 2005 in accordance with 37 C.F.R. 1.192.

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BRIEF FOR APPLICANTS - APPELLANTS

(1)
Real Party in Interest

The real party in interest is International Business Machines Corporation (IBM), the assignee.

(2)
Related Appeals and Interferences

There are no other appeals or interferences known to appellants, appellants' representative or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3)
Status of Claims

Claims 1 - 20 have been finally rejected in an Office Action dated June 07, 2005.

(4)
Status of Amendment

All amendments have been entered.

(5)
Summary of the Invention

The present invention allows existing mirroring maps to be used whenever applicable rather than requiring that a new mirroring map be defined for each piece of data being mirrored. In accordance with the teachings of the invention, when a mirroring map is created, it is given a

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name (see page 14, lines 29 and 30). The name is used to associate different pieces of data with the mirroring map (see page 14, line 30 to page 15, line 3). That is, different pieces of data may use an existing map when they are associated with the name of the mirroring map.

(6)

Issues

Whether Claims 1 - 20 were properly rejected under 35 U.S.C. §103(a) as being unpatentable over Taylor et al. in view of Balsan et al.

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Grouping of Claims

The rejected claims stand or fall together.

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Argument

In considering a Section §103 rejection, the subject matter of the claim "as a whole" must be considered and analyzed. In the analysis, it is necessary that the scope and contents of the prior art and differences between the art and the claimed invention be determined. *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

According to Taylor et al., during a data migration operation (i.e., when data is moved from a first storage device to a second storage device), it is often necessary to block access to the data. After the migration has completed, re-configuration at a user system must be executed to make the data available to the user from the

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second storage device.   The blocking of access to the data
during the data migration is a particularly costly action
for large data sets having many users.   Both the amount of
time required to move a copy of the data to the second
storage device, and the number of people inconvenienced can
be very large.   As a solution, Taylor et al. sought to
provide a method of transferring data from a first storage
device to a second storage device without blocking access
to the data.

In accordance with the purported teachings of Taylor
et al. an intermediate device is used.   The intermediate
device comprises three communication interfaces.   A first
interface is used to communicate with the first storage
device (e.g., the storage device in which the data is
originally stored).   A second interface is used to
communicate with the second storage device (e.g., the
storage device in which the data is to be transferred), and
a third interface is used to communicate with client
systems.

When a client system requests access to a certain
piece of data, the request is routed to the intermediate
device.   The intermediate first determines whether the
request is a "read" or a "write".   If the request is a
"write" (as when a data is being modified) the data that is
to be written will be sent to both the first and second
storage devices if the data to be modified has already been
transferred to the second storage device.   If on the other
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device has already been transferred to the second storage
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However, Taylor et al. do not teach, show or so much
as suggest the steps of *naming a mirroring map and of
allowing different pieces of data to be used with the
mirroring map when the name of the mirroring map is
associated with the different pieces of data* as claimed.

Belsan et al. purport to teach a data file storage
management system for snapshot copy operations. According
to Belsan et al., a file storage management system for
snapshot copy operations is used. The file storage
management system is implemented in a dynamically mapped
virtual data storage subsystem to maintain data file copy
integrity in snapshot copy operations. The data storage
subsystem is connected to at least one processor and
functions to store data files for the processor in the
backend data storage devices that are part of the data
storage subsystem. The processor assigns a virtual track
address to a data file which is transmitted to the data
storage subsystem for storage in an allocated physical
storage location in the backend data storage devices. The
assignment of a physical storage location on the backend
data storage devices is effected by a controller contained
within the data storage subsystem, which defines the
correspondence between the processor assigned virtual track
address and the logical address of the stored data file. A
mapping table translates the virtual track address into a
logical address which identifies the location of the data
file on a physical disk drive. The location of the data
file changes as the data storage subsystem free space

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collection process moves the data file to create free space
into which new data can be written.   It is therefore
insufficient to store the translation from a virtual
address to a logical address as a means of preserving a
record of the mapping table updates, since the free space
collection process changes the physical location of the
data file but does not update these translations.

Consequently, Belsan et al. purport to provide the
data files stored on the disk drives with information that
is independent of the logical address at which the data
file presently being copied is stored. This enables the
disk stored information to remain valid even though the
physical location of the data file may change over time.
This is accomplished by the use of a two level mapping
architecture. The first level of mapping tables maps a
virtual address to an immutable name which identifies a
unit of data, such as a virtual track. The second level of
mapping tables maps the immutable name to a given logical
address. The snapshot copy operation operates on the first
level of the mapping table to create multiple copies of the
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But note that it is a logical address that is given a
name and not a logical volume as in the present case.

In any case, just like in the case of Taylor et al.,
Belsan et al. do not teach, show or so much as suggest the
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name of the mirroring map is associated with the different pieces of data as claimed.

Since the references, either alone or in combination, teach, show or suggest the claimed invention, Applicants submit that the claims in the Application are allowable. Hence, Applicants respectfully request allowance and passage to issue of the claims in the application.

Respectfully submitted,

By: _____
Volel Emile
Attorney for Applicants
Registration No. 39,969
(512) 306-7969

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Appl. No. 10/015,223
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APPENDIX

1.   (Previously presented) A method of defining a
      mirroring map for use with different pieces of data,
      the mirroring map being an identification of one or
      more physical storage systems and one or more physical
      partitions in the one or more physical storage systems
      to use to store one or more copies of a piece of data,
      the method comprising the steps of:

      creating the mirroring map;

      naming the mirroring map; and

      allowing different pieces of data to be used with the
      mirroring map when the name of the mirroring map is
      associated with the different pieces of data.

2.   (Previously presented) The method of Claim 1 wherein
      the step of allowing different pieces of data to be
      used with the mirroring map when the name of the
      mirroring map is associated with the different pieces
      of data includes the step of associating a volume
      group in which the different pieces of data are to be
      stored with the mirroring map.

3.   (Original) The method of Claim 2 wherein existing
      mirroring maps may be displayed when selecting a
      mirroring map to associate with a piece of data.

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4.   (Original) The method of Claim 3 wherein a mirroring
      map may be created for facilitating striping a piece
      of data.

5.   (Original) The method of Claim 4 wherein a partition
      may be specified when storing data in a mirroring map.

6.   (Previously presented) A computer program product on a
      computer readable medium for defining a mirroring map
      for use with different pieces of data, the mirroring
      map being an identification of one or more physical
      storage systems and one or more physical partitions in
      the one or more physical storage systems to use to
      store one or more copies of a piece of data, the
      computer program product comprising:

      code means for creating the mirroring map;

      code means for naming the mirroring map; and

      code means for allowing different pieces of data to be
      used with the mirroring map when the name of the
      mirroring map is associated with the different pieces
      of data.

7.   (Previously presented) The computer program product of
      Claim 6 wherein the code means for allowing different
      pieces of data to be used with the mirroring map when
      the name of the mirroring map is associated with the
      different pieces of data includes code means for

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associating a volume group in which the different pieces of data are to be stored with the mirroring map.

8.   (Original) The computer program product of Claim 7 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

9.   (Original) The computer program product of Claim 8 wherein a mirroring map may be created for facilitating striping a piece of data.

10.   (Original) The computer program product of Claim 9 wherein a partition may be specified when storing data in a mirroring map.

11.   (Previously presented) An apparatus for defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems to use to store one or more copies of a piece of data, the apparatus comprising:

means for creating the mirroring map;

means for naming the mirroring map; and

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means for allowing different pieces of data to be used
with the mirroring map when the name of the mirroring
map is associated with the different pieces of data.

12. (Previously presented) The apparatus of Claim 11
wherein the means for allowing different pieces of
data to be used with the mirroring map when the name
of the mirroring map is associated with the different
pieces of data includes means for associating a volume
group in which the different pieces of data are to be
stored with the mirroring map.

13. (Original) The apparatus of Claim 12 wherein existing
mirroring maps may be displayed when selecting a
mirroring map to associate with a piece of data.

14. (Original) The apparatus of Claim 13 wherein a
mirroring map may be created for facilitating striping
a piece of data.

15. (Original) The apparatus of Claim 14 wherein a
partition may be specified when storing data in a
mirroring map.

16. (Previously presented) A computer system for defining
a mirroring map for use with different pieces of data,
the mirroring map being an identification of one or
more physical storage systems and one or more physical
partitions in the one or more physical storage systems

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to use to store one or more copies of a piece of data,
the computer system comprising:

at least a memory device for storing code data; and

at least a processor for processing said code data for
creating the mirroring map, naming the mirroring map,
and allowing different pieces of data to be used with
the mirroring map when the name of the mirroring map
is associated with the different pieces of data.

17.   (Previously presented) The computer system of Claim 16
       wherein processing the code data to allow different
       pieces of data to be used with the mirroring map when
       the name of the mirroring map is associated with the
       different pieces of data includes processing the code
       data to associate a volume group in which the
       different pieces of data are to be stored with the
       mirroring map.

18.   (Original) The computer system of Claim 17 wherein
       existing mirroring maps may be displayed when
       selecting a mirroring map to associate with a piece of
       data.

19.   (Original) The computer system of Claim 18 wherein a
       mirroring map may be created for facilitating striping
       a piece of data.

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20.   (Original) The computer system of Claim 19 wherein a
       partition may be specified when storing data in a
       mirroring map.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Application of:	:
Gerald Francis McBrearty	:
	: Before the Examiner:
	: Pierre M. Vital
Serial No: 10/015,223	:
	:
Filed: 12/17/2001	: Group Art Unit: 2188
	:
Title: APPARATUS AND METHOD	: Confirmation No.: 6252
OF CREATING A MIRRORING MAP	:
FOR USE WITH DIFFERENT PIECES	:
OF DATA	!

APPELLANTS' BRIEF UNDER 37 C.F.R. 1.192

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an appeal to a final rejection dated June 07, 2005 of claims 1 - 20 of Application Serial Number 10/015,223 filed on December 17, 2001. This Appeal Brief is submitted pursuant to a Notice of Appeal filed on August 29, 2005 in accordance with 37 C.F.R. 1.192.

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BRIEF FOR APPLICANTS - APPELLANTS

(1)

Real Party in Interest

The real party in interest is International Business Machines Corporation (IBM), the assignee.

(2)

Related Appeals and Interferences

There are no other appeals or interferences known to appellants, appellants' representative or assignee, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3)

Status of Claims

Claims 1 - 20 have been finally rejected in an Office Action dated June 07, 2005.

(4)

Status of Amendment

All amendments have been entered.

(5)

Summary of the Invention

The present invention allows existing mirroring maps to be used whenever applicable rather than requiring that a new mirroring map be defined for each piece of data being mirrored. In accordance with the teachings of the invention, when a mirroring map is created, it is given a

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name (see page 14, lines 29 and 30). The name is used to
associate different pieces of data with the mirroring map
(see page 14, line 30 to page 15, line 3). That is,
different pieces of data may use an existing map when they
are associated with the name of the mirroring map.

(6)

Issues

Whether Claims 1 - 20 were properly rejected under 35
U.S.C. §103(a) as being unpatentable over Taylor et
al. in view of Balsan et al.

(7)

Grouping of Claims

The rejected claims stand or fall together.

(8)

Argument

In considering a Section §103 rejection, the subject
matter of the claim "as a whole" must be considered and
analyzed. In the analysis, it is necessary that the scope
and contents of the prior art and differences between the
art and the claimed invention be determined. *Graham v.
John Deere Co.*, 383 U.S. 1 (1966).

According to Taylor et al., during a data migration
operation (i.e., when data is moved from a first storage
device to a second storage device), it is often necessary
to block access to the data. After the migration has
completed, re-configuration at a user system must be
executed to make the data available to the user from the

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second storage device.   The blocking of access to the data
during the data migration is a particularly costly action
for large data sets having many users.   Both the amount of
time required to move a copy of the data to the second
storage device, and the number of people inconvenienced can
be very large.   As a solution, Taylor et al. sought to
provide a method of transferring data from a first storage
device to a second storage device without blocking access
to the data.

In accordance with the purported teachings of Taylor
et al. an intermediate device is used.   The intermediate
device comprises three communication interfaces.   A first
interface is used to communicate with the first storage
device (e.g., the storage device in which the data is
originally stored).   A second interface is used to
communicate with the second storage device (e.g., the
storage device in which the data is to be transferred), and
a third interface is used to communicate with client
systems.

When a client system requests access to a certain
piece of data, the request is routed to the intermediate
device.   The intermediate first determines whether the
request is a "read" or a "write".   If the request is a
"write" (as when a data is being modified) the data that is
to be written will be sent to both the first and second
storage devices if the data to be modified has already been
transferred to the second storage device.   If on the other
hand, the request is a "read", the read request may be sent
to either the first or the second storage device if the

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device has already been transferred to the second storage
device.

However, Taylor et al. do not teach, show or so much
as suggest the steps of *naming a mirroring map and of
allowing different pieces of data to be used with the
mirroring map when the name of the mirroring map is
associated with the different pieces of data* as claimed.

Belsan et al. purport to teach a data file storage
management system for snapshot copy operations. According
to Belsan et al., a file storage management system for
snapshot copy operations is used. The file storage
management system is implemented in a dynamically mapped
virtual data storage subsystem to maintain data file copy
integrity in snapshot copy operations. The data storage
subsystem is connected to at least one processor and
functions to store data files for the processor in the
backend data storage devices that are part of the data
storage subsystem. The processor assigns a virtual track
address to a data file which is transmitted to the data
storage subsystem for storage in an allocated physical
storage location in the backend data storage devices. The
assignment of a physical storage location on the backend
data storage devices is effected by a controller contained
within the data storage subsystem, which defines the
correspondence between the processor assigned virtual track
address and the logical address of the stored data file. A
mapping table translates the virtual track address into a
logical address which identifies the location of the data
file on a physical disk drive. The location of the data
file changes as the data storage subsystem free space

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collection process moves the data file to create free space into which new data can be written. It is therefore insufficient to store the translation from a virtual address to a logical address as a means of preserving a record of the mapping table updates, since the free space collection process changes the physical location of the data file but does not update these translations.

Consequently, Belsan et al. purport to provide the data files stored on the disk drives with information that is independent of the logical address at which the data file presently being copied is stored. This enables the disk stored information to remain valid even though the physical location of the data file may change over time. This is accomplished by the use of a two level mapping architecture. The first level of mapping tables maps a virtual address to an immutable name which identifies a unit of data, such as a virtual track. The second level of mapping tables maps the immutable name to a given logical address. The snapshot copy operation operates on the first level of the mapping table to create multiple copies of the virtual track, thereby eliminating the need to associate with each virtual track address a mapping table entry which contains a logical address.

. But note that it is a logical address that is given a name and not a logical volume as in the present case.

In any case, just like in the case of Taylor et al., Belsan et al. do not teach, show or so much as suggest the steps of *naming a mirroring map and of allowing different pieces of data to be used with the mirroring map when the*

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name of the mirroring map is associated with the different pieces of data as claimed.

Since the references, either alone or in combination, teach, show or suggest the claimed invention, Applicants submit that the claims in the Application are allowable. Hence, Applicants respectfully request allowance and passage to issue of the claims in the application.

Respectfully submitted,

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APPENDIX

1. (Previously presented) A method of defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems to use to store one or more copies of a piece of data, the method comprising the steps of:

creating the mirroring map;

naming the mirroring map; and

allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data.

2. (Previously presented) The method of Claim 1 wherein the step of allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data includes the step of associating a volume group in which the different pieces of data are to be stored with the mirroring map.

3. (Original) The method of Claim 2 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

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4.   (Original) The method of Claim 3 wherein a mirroring map may be created for facilitating striping a piece of data.

5.   (Original) The method of Claim 4 wherein a partition may be specified when storing data in a mirroring map.

6.   (Previously presented) A computer program product on a computer readable medium for defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems to use to store one or more copies of a piece of data, the computer program product comprising:

code means for creating the mirroring map;

code means for naming the mirroring map; and

code means for allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data.

7.   (Previously presented) The computer program product of Claim 6 wherein the code means for allowing different pieces of data to be used with the mirroring map when the name of the mirroring map is associated with the different pieces of data includes code means for

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associating a volume group in which the different pieces of data are to be stored with the mirroring map.

8.   (Original) The computer program product of Claim 7 wherein existing mirroring maps may be displayed when selecting a mirroring map to associate with a piece of data.

9.   (Original) The computer program product of Claim 8 wherein a mirroring map may be created for facilitating striping a piece of data.

10.   (Original) The computer program product of Claim 9 wherein a partition may be specified when storing data in a mirroring map.

11.   (Previously presented) An apparatus for defining a mirroring map for use with different pieces of data, the mirroring map being an identification of one or more physical storage systems and one or more physical partitions in the one or more physical storage systems to use to store one or more copies of a piece of data, the apparatus comprising:

means for creating the mirroring map;

means for naming the mirroring map; and

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means for allowing different pieces of data to be used
with the mirroring map when the name of the mirroring
map is associated with the different pieces of data.

12. (Previously presented) The apparatus of Claim 11
wherein the means for allowing different pieces of
data to be used with the mirroring map when the name
of the mirroring map is associated with the different
pieces of data includes means for associating a volume
group in which the different pieces of data are to be
stored with the mirroring map.

13. (Original) The apparatus of Claim 12 wherein existing
mirroring maps may be displayed when selecting a
mirroring map to associate with a piece of data.

14. (Original) The apparatus of Claim 13 wherein a
mirroring map may be created for facilitating striping
a piece of data.

15. (Original) The apparatus of Claim 14 wherein a
partition may be specified when storing data in a
mirroring map.

16. (Previously presented) A computer system for defining
a mirroring map for use with different pieces of data,
the mirroring map being an identification of one or
more physical storage systems and one or more physical
partitions in the one or more physical storage systems

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to use to store one or more copies of a piece of data,
the computer system comprising:

at least a memory device for storing code data; and

at least a processor for processing said code data for
creating the mirroring map, naming the mirroring map,
and allowing different pieces of data to be used with
the mirroring map when the name of the mirroring map
is associated with the different pieces of data.

17. (Previously presented) The computer system of Claim 16
     wherein processing the code data to allow different
     pieces of data to be used with the mirroring map when
     the name of the mirroring map is associated with the
     different pieces of data includes processing the code
     data to associate a volume group in which the
     different pieces of data are to be stored with the
     mirroring map.

18. (Original) The computer system of Claim 17 wherein
     existing mirroring maps may be displayed when
     selecting a mirroring map to associate with a piece of
     data.

19. (Original) The computer system of Claim 18 wherein a
     mirroring map may be created for facilitating striping
     a piece of data.

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20.   (Original) The computer system of Claim 19 wherein a
      partition may be specified when storing data in a
      mirroring map.

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